HPCC SYSTEMS®

3LOQ

LexisNexis® RISK SOLUTIONS

CASE STUDY

Harness the Power of Habits to Accelerate Customer Engagement and Reduce Churn

3LOQ's Habitual AI platform reduces churn while building loyalty and customer engagement with digital banking services available through online and mobile platforms.

SUMMARY

One of the major challenges facing financial institutions is customer attrition, or churn. Studies suggest it costs five to seven times more to attract new customers than it does to retain current customers. Studies have also shown that companies are more likely to retain customers who engage frequently with a product or service. With the number of mobile internet users in India estimated to reach around 420 million in 2017, financial institutions are undertaking the mammoth job of becoming both omnichannel and paperless while encouraging thousands of customers towards making digital channels their primary means of engagement.

To implement their Habitual AI solution, 3LOQ needed a powerful and scalable big data platform that could manage proprietary machine learning algorithms to analyze billions of data points and be able to rapidly map out dynamic feature recommendations in real-time. As a start-up, keeping both initial cost and total cost of ownership low was critical. 3LOQ selected HPCC Systems as their big data platform to meet these objectives and lay a solid foundation for future growth.

THE CHANGING LANDSCAPE OF CUSTOMER LOYALTY

Banks are frequently exploring new channels and promotional methods to reach and engage their demographic. Reward-based marketing is often implemented to combat churn, but these tactics do not look beyond encouraging a one-time customer action. Organizations soon discover that rewards need to be constantly increased to keep customers engaged. Further, when incentives are removed, there is no reason for customers to repeat the desired action.

In India, one of the world's fastest growing economies, banks are also seeing a surge in the number of mobile internet users which is forcing banks to undertake the mammoth job of becoming omnichannel and paperless in a digital economy. India's second largest bank historically experienced high churn rates among their digital banking customers resulting in increased marketing costs to both attract new customers and retain existing customers. The bank's Net Banking team hypothesized that mobile technology and digital services could be a used to deliver timely, personalized communications that address the customer's current and future needs and anticipate the customer's engagement path. They believed these actions would reduce churn while building loyalty and habitual customer engagement through the digital services available in online and mobile platforms.

The Net Banking team identified three areas of focus:

1. **Reduce churn rates:** Identify customers who had already begun using digital services, but had no activity in the past three months and to understand the underlying reasons for this lack of activity.
2. **Provide contextual marketing:** Use personalized and relevant messaging to encourage the use of digital services.
3. **Promote net banking options:** Promote the use of net banking to customers who remained inactive on digital channels.

CHANGING THE LANDSCAPE OF CUSTOMER ENGAGEMENT WITH AI

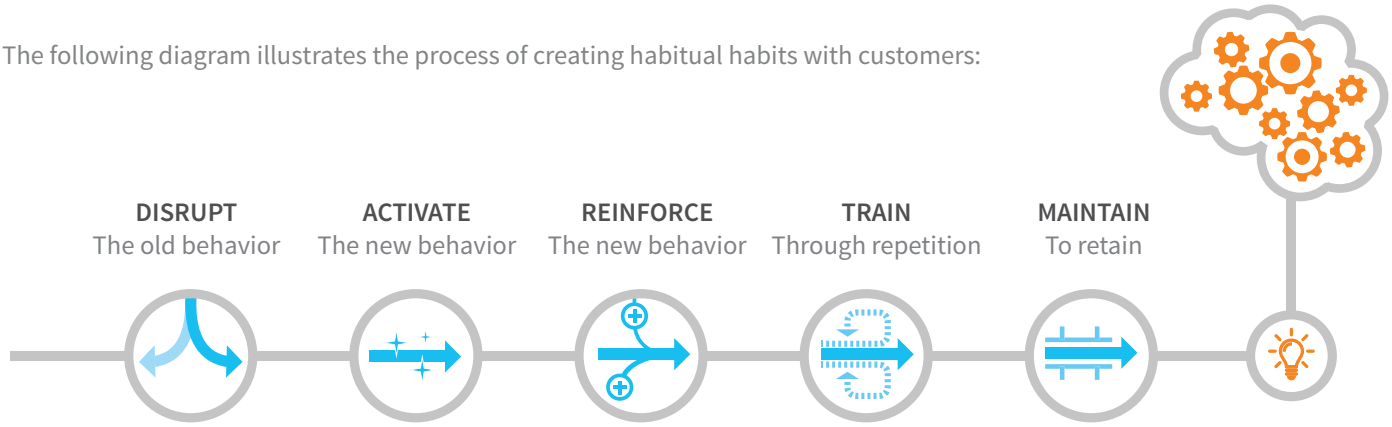
India's second largest bank selected 3LOQ Labs as their key innovation partner to develop an artificial intelligence (AI) based solution that could handle the complex, data-driven personalization required to tackle the problem of churn in a more personal, relevant, and meaningful way.

While working to reduce churn rates for banks in India, 3LOQ made an interesting discovery: people who crossed a specific engagement frequency threshold were more likely to continue to use a particular product or service offering. This learning led 3LOQ to ask the question, why do customers repeatedly use popular product features or specific mobile apps?
The answer is that they do it out of habit, intuitively performing actions that are familiar and useful. 3LOQ determined they could leverage artificial intelligence to make habitual users of a bank's mobile offering and thereby reduce churn rates and improve customer engagement.

The product 3LOQ developed is Habitual AI. Instead of focusing on the external factors that may have caused the churn, 3LOQ analyzed 24 months of in-house transaction, digital banking usage, and customer profile data to implement a holistic approach that would create individual 'habit formation paths' for each customer. 3LOQ's Habitual AI solution treats customer actions like a game of chess. Instead of pushing a customer towards the 'next best action,' it nudges them to increase their usage of key features gradually, one recommendation at a time. With Habitual AI, the 'next best action' is a step towards reaching an objective – helping a customer use digital banking in whatever way serves that customer best.

The technology uses proprietary machine learning algorithms to analyze billions of data points and map out dynamic feature recommendations that put a customer on a habit formation path. Following this path ultimately leads to the customer adopting a desired action, in this case using digital banking on a regular basis in a way that strengthens the value of this regular action. Additionally, the system automatically adapts to any new customer behavior.

The following diagram illustrates the process of creating habitual habits with customers:



LEVERAGE THE POWER OF ARTIFICIAL INTELLIGENCE TO MAKE HABITUAL USERS

To meet their needs, 3LOQ needed a platform that could process massive amounts of data quickly, was easy to use, and would allow for rapid iteration for the development of prototypes.

3LOQ decided to use HPCC Systems®, a powerful, open-source, enterprise-proven big data analytics platform, to power the Habitual AI offering. HPCC Systems makes big data easier to process, analyze, and understand. The platform also includes a high-level, implicitly parallel data-centric declarative programming language that adds to its flexibility and efficiency.

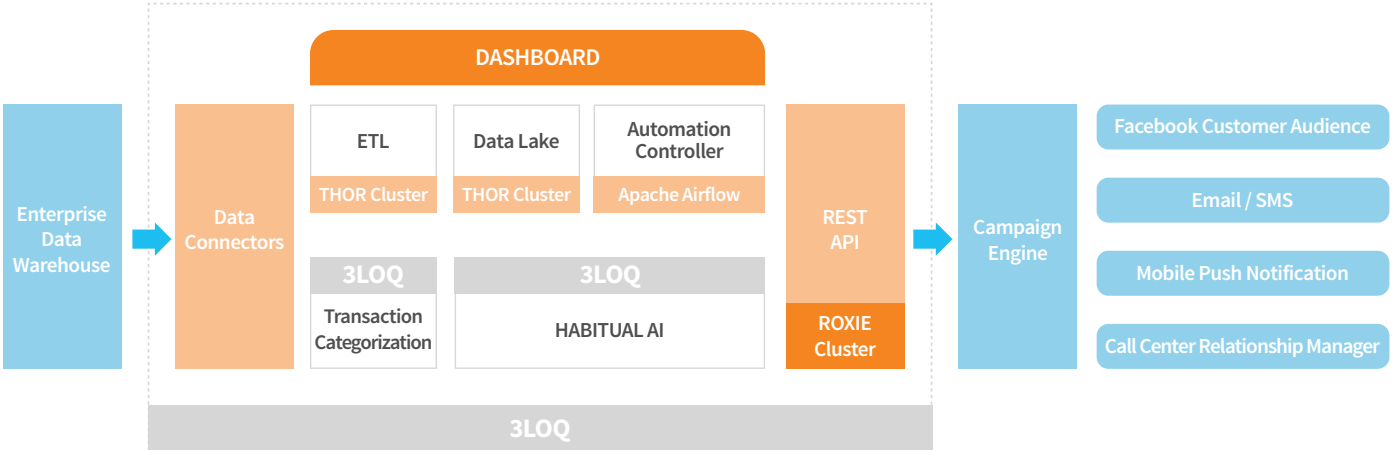
Further, 3LOQ needed a platform that could run on existing equipment, which was limited to 10 desktop computers. HPCC Systems runs on commodity, off-the-shelf hardware. Further, HPCC Systems is a cost-effective solution that can run on a single laptop or desktop and can expand to run as a cluster of thousands of servers working together in a massively scalable solution.

For a start-up like 3LOQ, speed of development is imperative to create and modify prototypes. The ease of iteration within the HPCC Systems platform allowed for rapid development. In less than 12 months, 3LOQ was able to develop and test Habitual Al, increasing both time to market and time to revenue.

ECL, the declarative programming language of HPCC Systems, also provided numerous advantages over more conventional imperative programming models. ECL allows the programmer to express the logic of the computation without describing its flow control. In other words, you can use ECL to describe what to do rather than how to do it. ECL also improves the quality of the programs by minimizing or eliminating the presence of side effects, which has a positive impact on code testing and maintainability. Programs are easier to understand, verify, and extend, even by people who are not familiar with the original design. This ease of use also alleviates the learning curve for new programmers.

HPCC Systems provides a complete end-to-end, homogeneous platform that extends across the entire data lifecycle – from data ingestion and data processing to data delivery. No additional third party tools are needed. Thor, the data refinery cluster, is designed to execute big data workflows including extraction, loading, cleansing, transformations, linking and indexing. ROXIE, the data delivery engine, allows users to run real-time analytics against HPCC Systems. For 3LOQ, being able to serve the recommendations via the web application of ROXIE meant they were able deliver near real time recommendations for customers at scale.

THE HABITUAL AI TECHNOLOGY STACK



PROVEN SUCCESS WITH IMPROVED CUSTOMER ADOPTION

3LOQ has quickly grown their Habitual AI offering with HPCC Systems. Habitual AI is currently capable of analyzing four terabytes of data and creating personalized recommendations for 20 million customers in six hours or less. HPCC Systems also provides 3LOQ the ability for massive future scale.

Habitual AI has shown strong, consistent results. In a collaboration with its banking partners, Habitual AI increased adoption of digital and internet banking channels. Habitual Al automatically and securely personalizes customer communications while 3LOQ meshes proprietary advanced computing techniques with human wisdom to produce actionable insights. By contextualizing billions of transaction data points, the system creates a unique customer view. The customer can also be viewed individually or in relation to other customers. Actionable insights, delivered in real time, allows banks to find the right customer, at the right time, to fulfill their purchase intention. 3LOQ is expanding their partnerships to work with other banks in India and Southeast Asia.

Through this effort, India's second largest bank experienced impressive results:

47%
Decrease in customer churn

145%
Increase in digital banking transactions

75%
75% increase in users who made four or more transactions per month

Benefits of HPCC Systems

Ease of Use: Developers can quickly and easily learn ECL, allowing them to create rules to refine and clean data from a multitude of different resources and increase data accuracy.

Scalability: Massively scalable data platform supports rapid development from a growing set of real time data sources.

Speed of Development: ECL allows for more efficient coding. Less lines of code in an implicitly parallel platform allow prototypes to be developed and iterated quickly, speeding both time to market and time to revenue.

Real-Time Analytics: Ability to handle massively diverse amounts of real-time data combined with built-in analytics libraries allow 3LOQ to influence customer actions when they can be most impactful.

Homogeneous Platform: Designed with operability in mind, no additional third party components are required thus simplifying the implementation and eliminating complexities that arise from heterogeneous platforms.

For more information, call 866.528.0780 or visit hpccsystems.com

HPCC SYSTEMS®

LexisNexis® RISK SOLUTIONS

The opinions expressed within this case study represent customer opinions. LexisNexis believes this case study experience generally represents the experience found with other similar customer situations. However, each customer will have its own subjective goals and requirements and will subscribe to different combinations of LexisNexis services to suit those specific goals and requirements. This case study may not be deemed to create any warranty or representation that any other customer's experience will be the same as the experience identified herein.

About 3LOQ Labs
3LOQ is a Bitkemy Ventures company that builds habitual usage for financial products. It has been recognized by NASSCOM as a leader in the Machine Learning space. It focuses on accelerating customer engagement through AI-based habit formation.
Email: info@3loq.com

About HPCC Systems
HPCC Systems® (www.hpccsystems.com) from LexisNexis® Risk Solutions is a proven, open source solution for Big Data insights that can be implemented by businesses of all sizes. With HPCC Systems, developers can design applications with Big Data at their core, enabling businesses to better analyze and understand data at scale, improving business time-to-results and decisions. HPCC Systems offers a consistent data-centric programming language, two processing platforms and a single, complete end-to-end architecture for efficient processing. Read our blog (http://hpccsystems.com/blog), or connect with us on Twitter (@hpccsystems), Facebook (https://www.facebook.com/hpccsystems) and LinkedIn (http://www.linkedin.com/company/hpcc-systems

About LexisNexis Risk Solutions
At LexisNexis Risk Solutions, we believe in the power of data and advanced analytics for better risk management. With over 40 years of expertise, we are the trusted data analytics provider for organizations seeking actionable insights to manage risks and improve results while upholding the highest standards for security and privacy. Headquartered in metro Atlanta USA, LexisNexis Risk Solutions serves customers in more than 100 countries and is part of RELX Group, a global provider of information and analytics for professional and business customers across industries.
For more information, please visit www.risk.lexisnexis.com.